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DEPARTMENT OF **Biology & Chemistry** GATEPOST NEWSLETTER



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Oral Roberts University
7777 South Lewis Avenue
Tulsa, Oklahoma 74171

Global Medical Missions

Christine Kirunda (Biology Adjunct Instructor) accompanied 18 pre-health profession students to the annual Global Health Missions Conference November 10-12, 2011 in Louisville, KY. The students attended 3 full



Students at the Global Medical Missions Conference

days of presentations by mission agencies, and medical professionals. They returned with a fresh and informed vision for the role of health care in international and domestic missions. Alumni funds were used to support the registration fees.



WORD FROM THE CHAIR – Dr. Hal C. Reed

Greetings to you in this new year of 2012! We in the Biology and Chemistry department are looking forward to a new academic session after completing a busy yet productive fall semester. Many of our faculty and student activities have been supported with alumni funds for which we are extremely grateful! The administration enlarged the departmental office with a new glass door entrance that provides us more space to efficiently accommodate student and faculty visits. We then were able to use alumni funds to purchase new furniture so as to make the chair and administrative assistant offices a more professional venue (see photo on right).

Another major renovation was done on the GC3 floor of the Chemistry hallway. The College of Business needed some of our rooms and in exchange we were able to revamp some space into a new biochemistry lab and adjacent preparatory room (see photo below). Dr. Robert Stewart taught in the lab midway through the fall semester and used the equipment that several alumni have helped us to purchase. Thank you so much for your support to our program as your gifts enable



Thanks to the efforts of ORU Operations the department's office and the adjacent chair's office was expanded and renovated to handle the increasing flow of students and faculty. Alumni funds allowed us to buy new desks and furniture making these areas more spacious, efficient, and of course, more pleasant for all of us!

us to maintain a standard of excellence in the lecture and laboratory settings.

The faculty have been busy teaching and conducting research along with other scholarly activities; some of which are described later in the newsletter.



The new biochemistry lab on the GC3 chemistry hallway is near completion. ORU provided the funds for the remodel while alumni funds are being used to equip the lab with the up-to-date biochemical instrumentation.

Dr. Joel Gaikwad has been on sabbatical working in the immunology laboratory at the University of Oklahoma – Tulsa Health Sciences Center. Dr. John Korstad is fervently investigating and writing papers on the use of algae in biofuels production; Dr. Sarah Myer attended a conference on engaging students in undergraduate research; Dr. Lois Ablin continues to lead students on service learning projects in local schools, Dr. Bill Collier maintains our complex chemistry equipment, and Dr. Suzanne Vincent, fresh from her sabbatical with a collaborator at the Oklahoma State University Health Sciences

Center, presented two posters at a neuroscience meeting. Fortunately, our beloved general chemistry professor, Gary Ritzhaupt, recovered from some complications with his hip replacement surgery and is “back in the saddle” teaching and mentoring our freshmen chemistry students. These are just some of the highlights as each faculty member has been involved in various ways of promoting the academics and the spiritual vitality of our program.

We continue to develop ways to attract more students into our science programs. We now have an early assurance agreement with the Osteopathic Medicine (D.O.) program at the Center for Health Sciences at Oklahoma State University in Tulsa and a renewed Medical Technology program with St. Francis Hospital in Tulsa. We are in the process of working with the Tulsa Community College to offer a B.S. degree in Biotechnology, and we hope to enhance our association with the Au Sable Institute of Environmental Studies to support our Environmental Science concentration and Sustainability major. Please spread the word on our efforts to enhance and strengthen our science program options so as to attract more quality science students to ORU.

Our students, both the new freshmen and “veteran” upperclassmen, have been a joy to teach and mentor this year. Our AED (Pre-health professions) and MAPS (Minority Association of Pre-health Students) clubs have been quite active this semester and recruited a group of 18 students to attend the Global Medical Missions conference in Louisville, KY. Again, alumni funds provided for each student's registration. Student researchers presented their work at the recent Oklahoma Academy of Sciences technical meeting with four



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students winning awards. Some students have applied for dental, pharmacy and medical schools with a few granted early interviews and admissions this fall. Dr. Ablin and I continue to advise, admonish, and encourage students as they seek options in the various health profession careers.

This newsletter provides some glimpses into our programs, students and faculty. We would encourage each of you to consider attending Homecoming, February 10–11, where we can meet face-to-face and converse on all the departmental activities. At the Biology and Chemistry alumni council meeting on Saturday at noon on February 11th I will give a full account of our expenditures of the alumni funds. We cannot fully express our gratitude for your generosity as each day in our department is made better by your support for equipment and so many activities of our students and faculty. May the Lord greatly bless you and your family during this new year of 2012!

FACULTY SUMMER ACTIVITIES

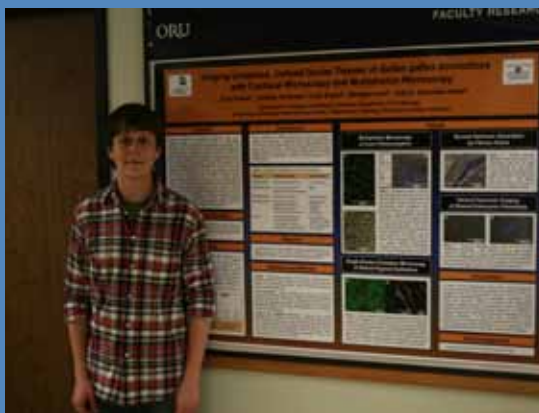
Biology and Chemistry faculty have been busy this past summer with various professional activities. Dr. Suzanne Vincent, served as President of the Oklahoma chapter of the American Physiological Society for 2010-2011 and organized the 30th Annual Oklahoma Society of Physiologists Meeting held on June 3, 2011 at Oral Roberts University. Dr. Lois Ablin attended the Green Chemistry and Engineering conference in the Washington, D.C. area. Dr. Catherine Klehm taught in Summer Math/Science Academy (also joined by Drs. Ken Weed and John Korstad) and wrote a new curriculum for students

touring the Elsing Museum. Dr. John Korstad again taught Limnology at the Au Sable Institute of Environmental Studies in northern Michigan. Dr. George Thyvelikakath was a keynote speaker at several organizations, clubs and high schools during his trip to India this summer. Dr. George was also recognized for his contributions in the field of Oncological Chemistry by Shri Oommen Chandy, Honorable Chief Minister of Kerala State. Dr. Bill Collier participated in a workshop on Computational Chemistry for Chemistry Educators hosted by Oklahoma State University, Stillwater, OK, July 24-30, 2011.

STUDENT RESEARCH/INTERNSHIPS

Several biology and chemistry students were involved in summer research programs. Zoey Miranda (Sophomore BIO) and Christine Bogandoff (Junior BIO) participated in the first summer research program of TABERC (Tulsa Area Bioscience and Education Research Consortium) with mentors from Oklahoma State University-Health Sciences Center and University of Tulsa, respectively. John Powell (Junior BIO) participated in the S.U.R.E. (Summer Undergraduate Research Experience) program at the University of Oklahoma Health Sciences Center. Also, Caitlin Legler (Senior CHE) conducted summer research at Oklahoma State University-Health Sciences Center, Michael Drew Harness (Senior CHE) worked on a research project with Roads Science in Tulsa, Cordelia Staab (Senior BIO) participated in a rural medicine research project as part of the University of Kansas Medical

School Rural Health program, and Danielle LaVigne (Senior BIO) completed the Pritzker School of Medicine Experience in Research program; a pipeline program for the University of Chicago Medical School.



Junior Biology major John Powell's summer research poster.

This past fall semester senior students actively engaged in experimental research for their senior research projects. For example, Peter Zakes conducted a forensic study with Dr. Robert Stewart measuring hemoglobin content in blood at crime scenes. Jonathan Barber did research at the Saint Simeon's Episcopal Home on elderly patients under the guidance of Dr. Suzanne Vincent. He examined the role of specific exercises that will show improvements in walking, sitting and standing, balance, and posture. Ashley Sweeney continues to work with Dr. Hal Reed on a vegetation analysis at the local Creek Turnpike wetlands.



FACULTY FALL ACTIVITIES

Dr. John Korstad (Professor of Biology) attended the annual National Collegiate Honors Council conference on Oct. 19-23 in Phoenix, AZ. John was co-Chair of the Developing in Honors panel discussion on “Cultivating the Spirit in Honors: Whole Person Education” in which he and Ashley Sweeney (ORU biology student) shared about whole person education at ORU. John also helped lead a group of new Honors Program directors in the Beginning in Honors session. He also participated in the CCCU dinner and Scholarship and Christianity in Oxford (SCIO) Board of Advisors meeting.

Dr. John Korstad also attended the Algal Biomass Organization Summit in Minneapolis, MN during Oct. 24-27. This is an international conference with 850 attendees from 45 countries and 28 US States representing major academic and industry interests. Biofuels from algae is a fast-developing focus for alternative energy that’s sustainable, economical, expandable, and environmentally favorable.

Dr. Hal Reed (Professor of Biology) took a group of six students to the 100th Annual Oklahoma Academy of Sciences Technical meeting at Southeastern Oklahoma State University in Durant, OK. Five of these students presented their research projects and four of whom won awards.

Dr. Hal Reed also attended the regional meeting of the Southeastern Association of Advisors of the Health Professions in Nashville, TN in April 2011 in order to keep abreast of changes in curriculum, pre-requisites and standardized tests for medical schools and other health profession programs.

Dr. Suzanne Vincent (Associate Professor of Biology) made two poster presentations at the Society for Neuroscience 2011 meeting in Washington DC hosting 31,000 attendees from around the world. On Nov. 12, 2011 Saturday, she presented “Tribute to Heinrich Lissauer (1861-1891): breakthroughs made in a short life” in the History of Neuroscience section. On Nov. 16, 2011 Wednesday, Dr. Vincent presented “Extent of Lissauer’s tract in cross sections of rat lumbar spinal cord delineated using protein markers peripherin, VGLUT2, CGRP, and IB4” in the Spinal Cord Processing: Anatomy and Physiology section. This latter research was done in collaboration with Dr. Kenneth E. Miller, Dept of Anatomy & Cell Biology, Oklahoma State University University-Center for Health Sciences in Tulsa while Dr. Vincent was on sabbatical in Spring 2011 studying in Dr. Miller’s laboratory.

Dr. Sarah Myer (Assistant Professor of Biology) participated in Council of Undergraduate Research (CUR) Institute: Beginning a Research Program in the Natural Sciences at a Predominantly Undergraduate Institution on November 18-20, 2011 at Hope College, Michigan. A goal of the institute is to give pre-tenured faculty the opportunity to learn from and discuss with experienced faculty how to establish and manage a research program with undergraduates. Dr. Myer plans to implement the ideas and plans from this meeting into her ongoing developmental genetics projects on the model organism, the zebra fish. Alumni funds helped to sponsor this trip.

Au Sable Institute

Dieter Bouma, recruiter and admissions representative of the Au Sable Institute of Environmental Studies, visited ORU on November 7 and 8, 2011. He shared with several students and classes about the variety of summer courses offered at the Michigan and Washington State sites. He also presented a seminar on community-based forest management in Nepal as part of ORU’s monthly American Scientific Affiliation meeting. ORU students and faculty have been participated in this Christian-based environmental institute for 18 years.